



A.D. 1818 N° 4210.

S P E C I F I C A T I O N

OF

JAMES IKIN.

—
FIRE OR FURNACE BARS.
—

LONDON:

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Fire or Furnace Bars.

IKIN'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JAMES IKIN, of William Street, in the Parish of Christchurch, in the County of Surrey, Mechanist, do send greeting.

WHEREAS His most Excellent Majesty King George the Third, by His
5 Letters Patent under the Great Seal of the United Kingdom of Great Britain and Ireland, bearing date at Westminster, the Twenty-seventh day of January, in the fifty-eighth year of His reign, did give and grant unto me, the said James Ikin, my executors, administrators, and assigns, His special licence, full power, sole privilege and authority, that I, the said James Ikin, my
10 executors, administrators, and assigns, during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within England, Wales, and the Town of Berwick-upon-Tweed, my Invention of
“AN IMPROVED METHOD OR METHODS OF CONSTRUCTING OR MANUFACTURING FIRE
OR FURNACE BARS OR GRATINGS;” in which Letters Patent there is contained a
15 proviso obliging me, the said James Ikin, under my hand and seal, to cause a particular description of my said Invention, and in what manner the same is to be performed, to be inrolled in His Majesty's High Court of Chancery within two calendar months next and immediately after the date of the said in part recited Letters Patent, as in and by the same, relation being thereunto
20 had, may more fully and at large appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said James Ikin, do hereby declare that my Invention is described as follows (that is to say) :—

My method of constructing the bars or grating, is in leaving a channel or
25 passage through each bar longitudinally, so that water or any other fluid may

Ikin's Improvements in Fire or Furnace Bars or Gratings.

be passed through in order to keep the grating cool, and this may be done as follows:—In the first place, by connecting the several bars of the grating together, which may best be done by casting it of iron in one piece, joined at the ends, and having open spaces between the bars for the admission of the air, as represented by the plan of a set of bars or grating in the Drawing. 5

Fig. 1, the number, length, and depth of the bars, and the width of the spaces between them, and the shape and size of the grating being regulated by the size & form of the fire place where it is to be placed; and, in the second place, in forming a hollow cavity, passage, conveyance, or channel, which, entering at one end of one of the bars of the grating, and being continued 10 through the body of each several bar turning for this purpose at the ends of the grating, where the bars are united, finishes or ends at another opening; the channel thus formed through the grating is for the conveyance of a current of water or other fluid, which may be brought from any convenient reservoir; (it being necessary only that it be sufficiently elevated to enable the water or 15 other fluid to force its way through the grating,) by means of a tube made of copper, lead, iron, or other material, to be attached to one of the openings, while another tube fixed to the other will carry off the water or other fluid that has passed through the grating.

Fig. 2 represents a cross section of the grating at A, B, shewing the hole, 20 passage, or channel, which runs thro' its several bars.

Fig. 3 gives an end view of the grating, and also represents one of the ways in which it may be supplied with water. A cistern or cock C is placed at a certain height above the grating; to a hole in or near the bottom of this a tube is fastened, which has its other end fixed to the orifice D of the grating, 25 while another tube, having one end fixed to the orifice E of the grating, has its other end bent over the top of the cistern or cask. The water or other fluid with which the cistern or cask is then to be supplied will descend by the tube fixed in its bottom or side, will fill the channel in the grating, and by the heat of the fire thereon will be carried up the other tube into the same vessel 30 again, while the first tube, keeping up the supply, a current of water will be kept flowing through the grating, it being needful only occasionally to make up in the vessel the quantity of water or other fluid used or wasted. But the success of this improvement depending on the circumstance of the channel in the grating being constantly filled with water or other fluid, it is not necessary 35 that the stream be always reconducted into the vessel from whence it came; where water is abundant it may be suffered to go to waste, or where hot water is useful it may be conveyed away and applied. It is immaterial what shape the holes or passage through the bars are made, also of what metal or

FIG. 1.

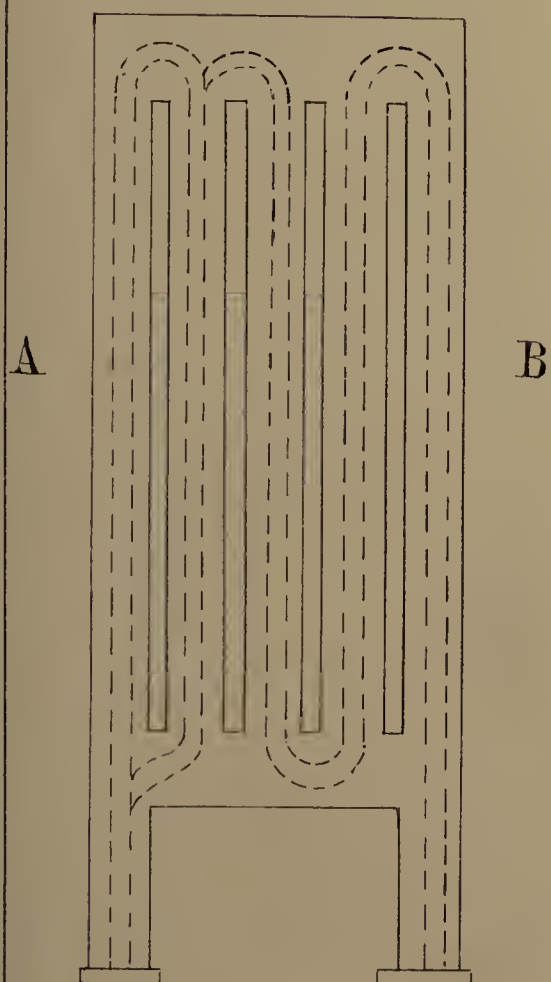


FIG. 2.

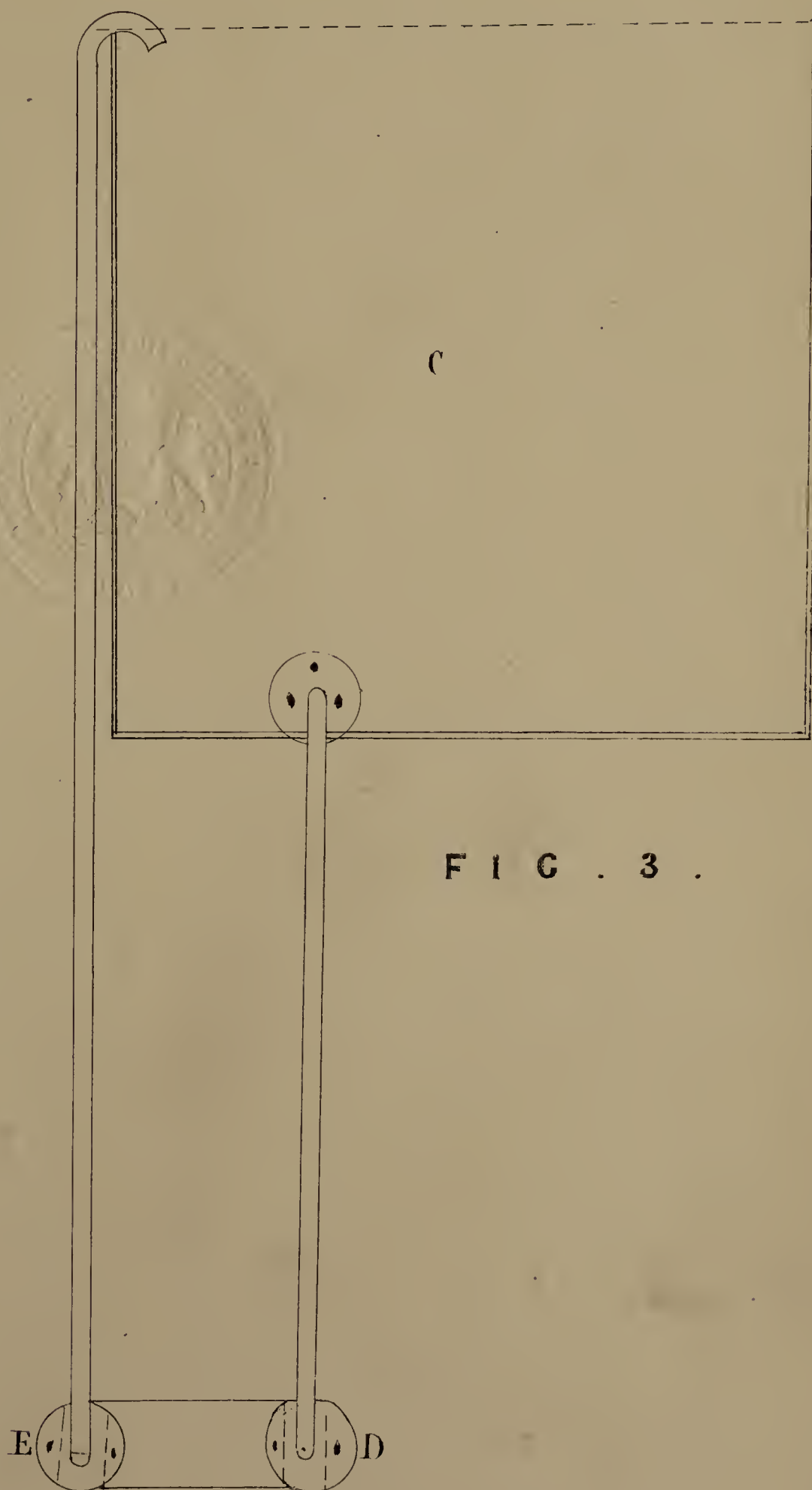


FIG. 3.

The envelled drawing is colored.

Drawn on Stone by Malby & Sons.

Ikin's Improvements in Fire or Furnace Bars or Gratings.

material the grating is made, provided it be fit for the purpose; this must be left to the judgement of the manufacturer.

In witness whereof, I, the said James Ikin, have hereunto set my hand and seal, this Twelfth day of March, in the year of our Lord
5 One thousand eight hundred and eighteen.

OBSERVATIONS.

The benefits arising from this Invention are very important:—First, the grating is so preserved by it that an intense fire will not cause it to burn or to bend, or even to become red; secondly, it prevents the clinkers from adhering
10 to the grating; thirdly, it opposes the escape into the ash pit of the heat which ought to ascend; and, fourthly, a constant supply of hot water is provided to be used or not used as occasion may require.

JAMES (L.S.) IKIN.

AND BE IT REMEMBERED, that on the Twelfth day of March, in
15 the fifty-eighth year of the reign of His Majesty King George the Third, the said James Ikin came before our said Lord the King in His Chancery, and acknowledged the Instrument aforesaid, and all and every thing therein contained and specified, in form above written. And also the Instrument aforesaid was stamped according to the tenor of the Statute made in the fifty-
20 fifth year of His said Majesty's reign.

CAMPBELL.

Inrolled the Thirteenth day of March, One thousand eight hundred and eighteen.

LONDON:

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